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Sustainable Development and Green Growth: Their Evolution, Korean Strategies and Experiences

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Part I.

Climate Disasters*

*Most photos and diagrams have been lifted from presentations of Messrs. Jeffrey Sachs and Guido Schmidt-Traub, the UN SDSN.

Polar Bear on Floating Ice





Korea, 2011





India Floods, 2013



**Manhattan,
Oct. 29, 2013**

California Drought, 2014



Port Villa, Vanuatu, Mar. 2015



Surviving the Storm

VANUATU A woman and her child stand next to an uprooted tree near their home in Port Vila, the capital of the Pacific island nation, on March 16. A powerful cyclone with winds of more than 185 m.p.h. (297 km/h) struck the archipelago three days earlier, destroying or damaging up to 90% of buildings in some areas and killing at least 11 people. Many survived by sheltering in sturdy buildings like schools and churches. *Photograph by Graham Crumb—Humans of Vanuatu/Reuters*

Source: TIME (Mar. 30, 2015, p9)

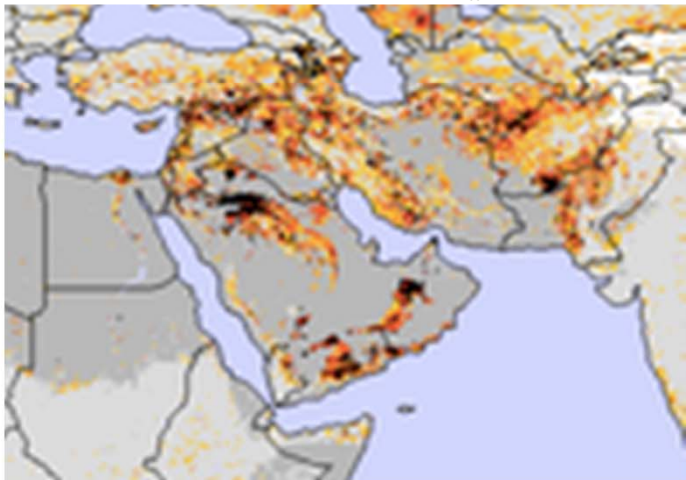
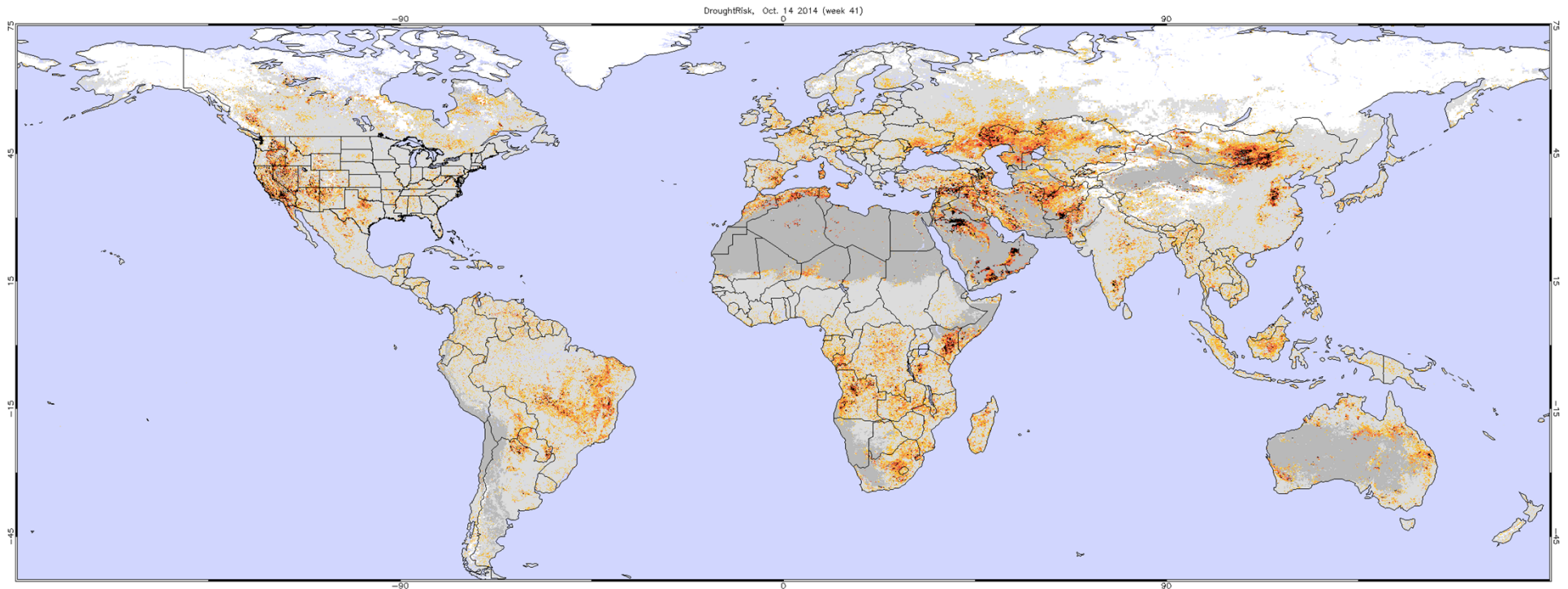


Jaguary Dam, Sao Paulo State, Jan. 2014



Stevens Creek Reservoir, May. 2014

Current Drought Risk Map, Oct. 2014



INSET FOR THE MIDDLE EAST AND WEST ASIA

http://www.star.nesdis.noaa.gov/smcd/emb/vci/VH/vh_browse.php

Part II.

Sustainability Challenges

Surface Temperature Map

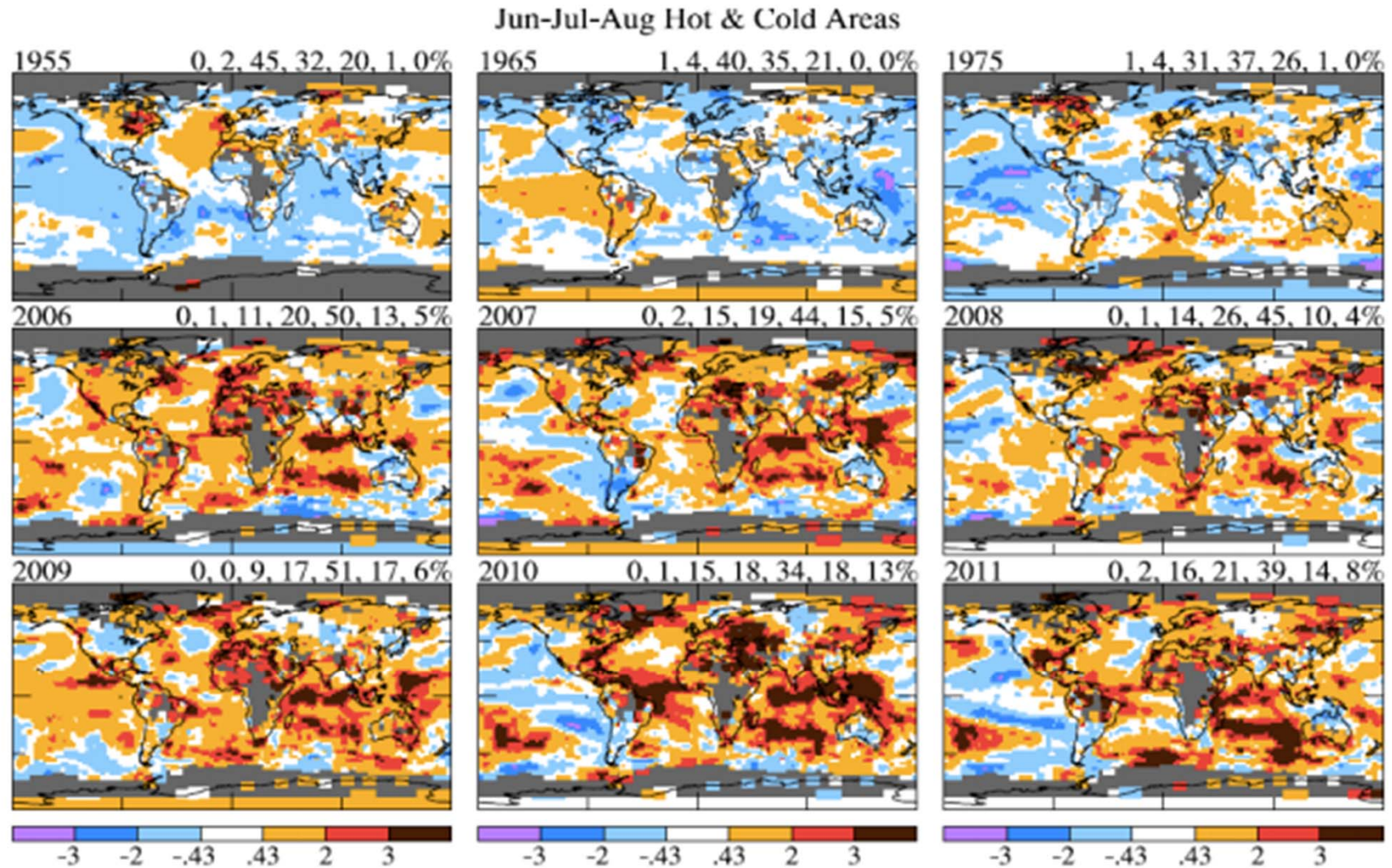
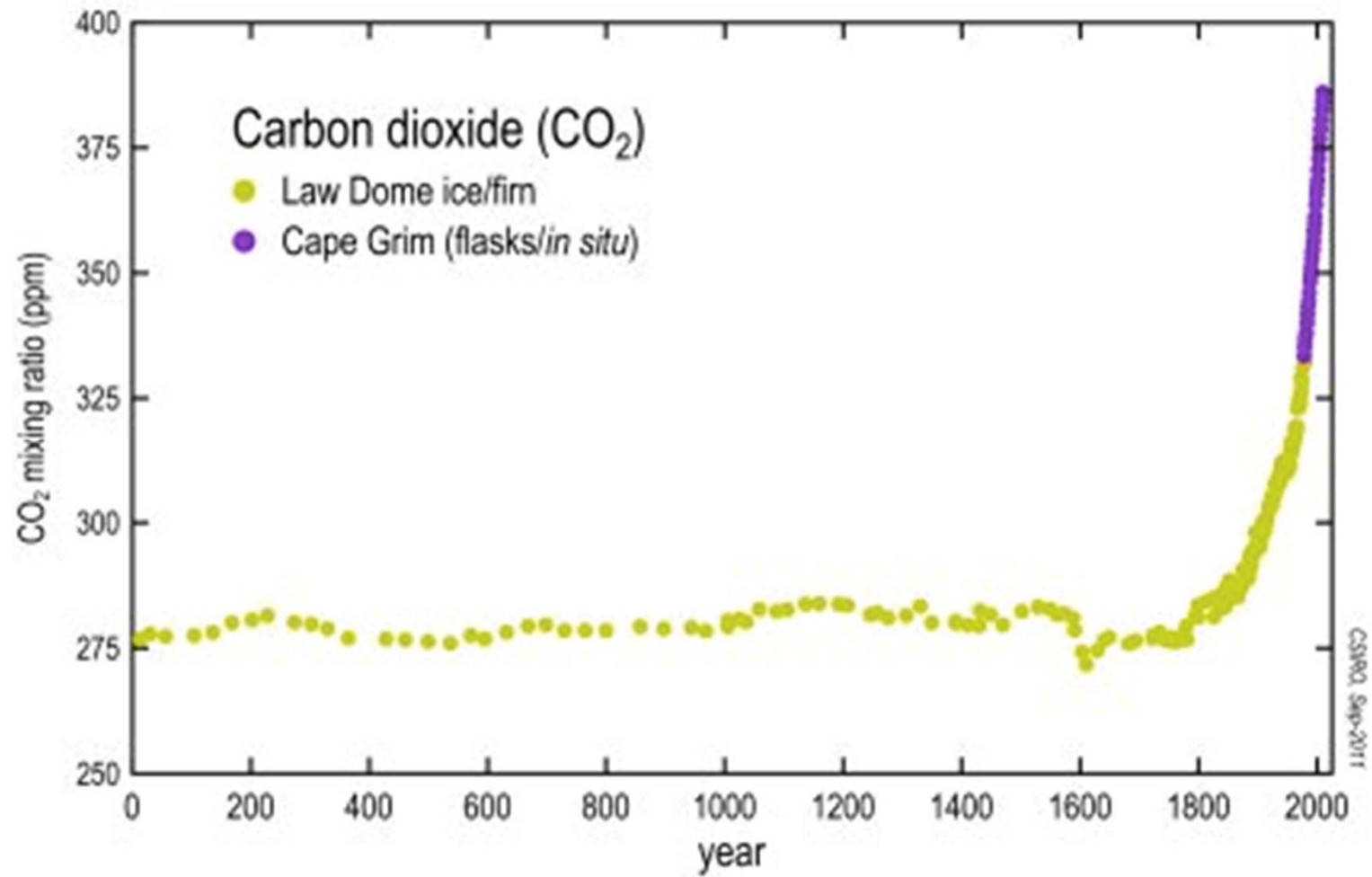
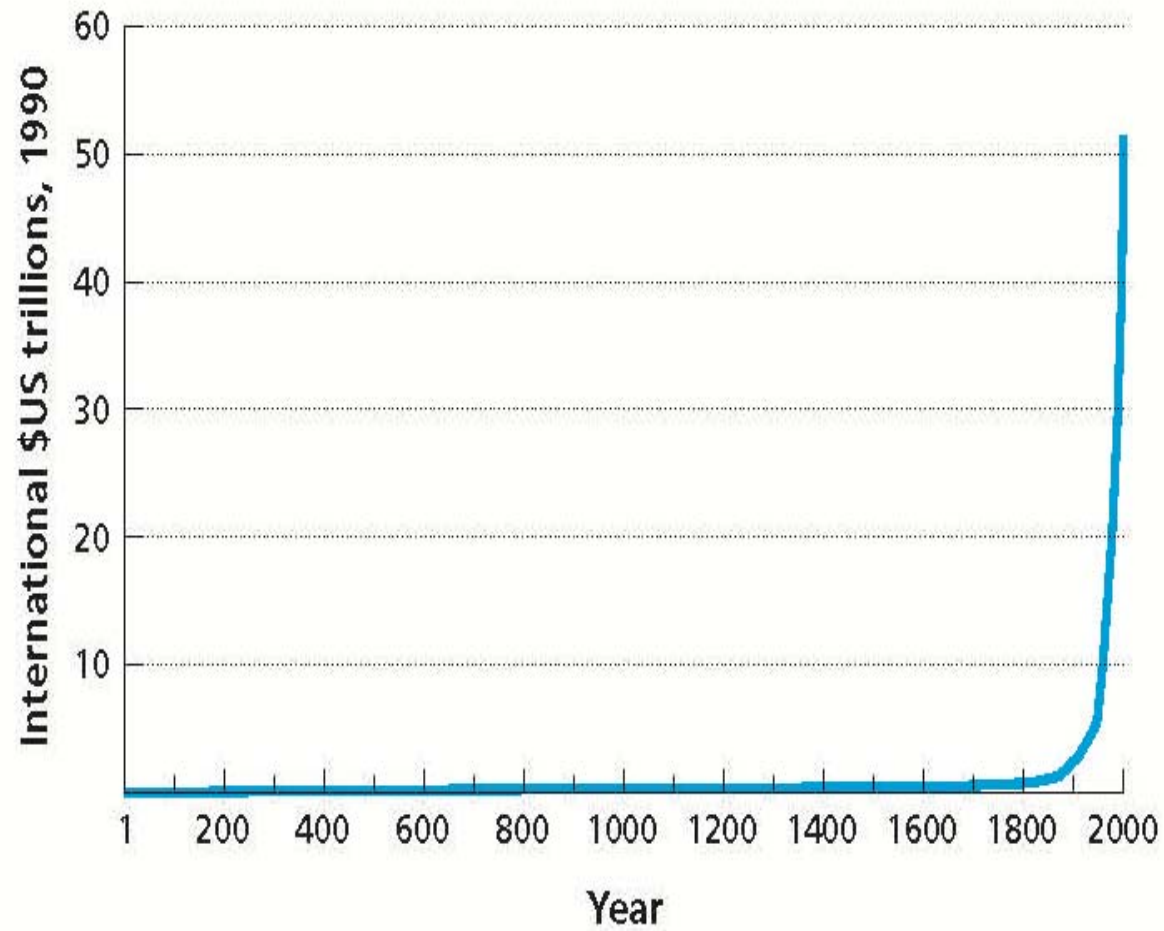


Fig. 3. Jun-Jul-Aug surface temperature anomalies in 1955, 1965, 1975 and in 2006-2011 relative to 1951-1980 mean temperature in units of the local standard deviation of temperature. The numbers above each map are the percent of surface area covered by each of the categories in the color bar.

CO₂ Concentration over Time



Gross World Output



Beijing Enveloped in Pollution, Jan. 2014



Planetary Boundaries

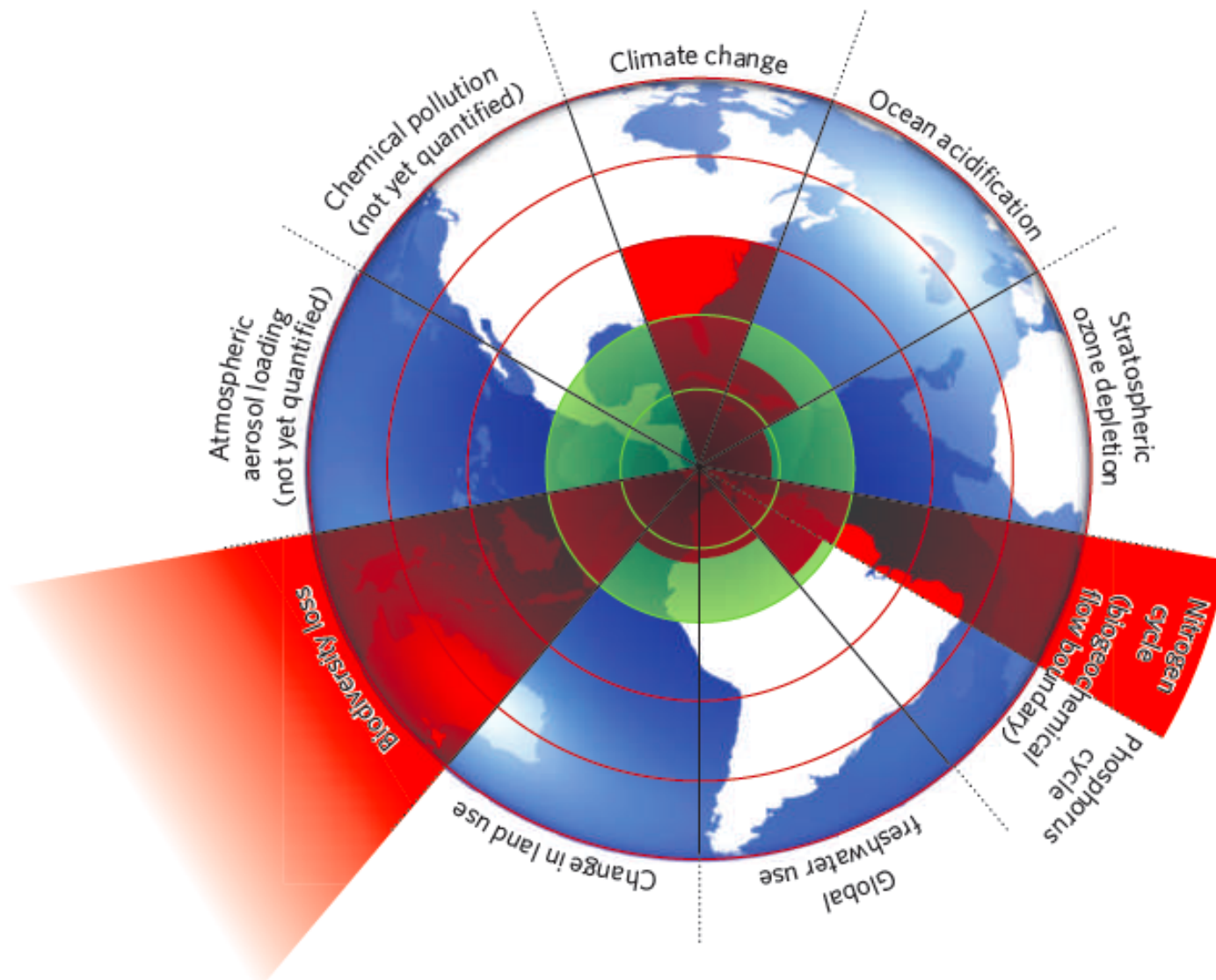
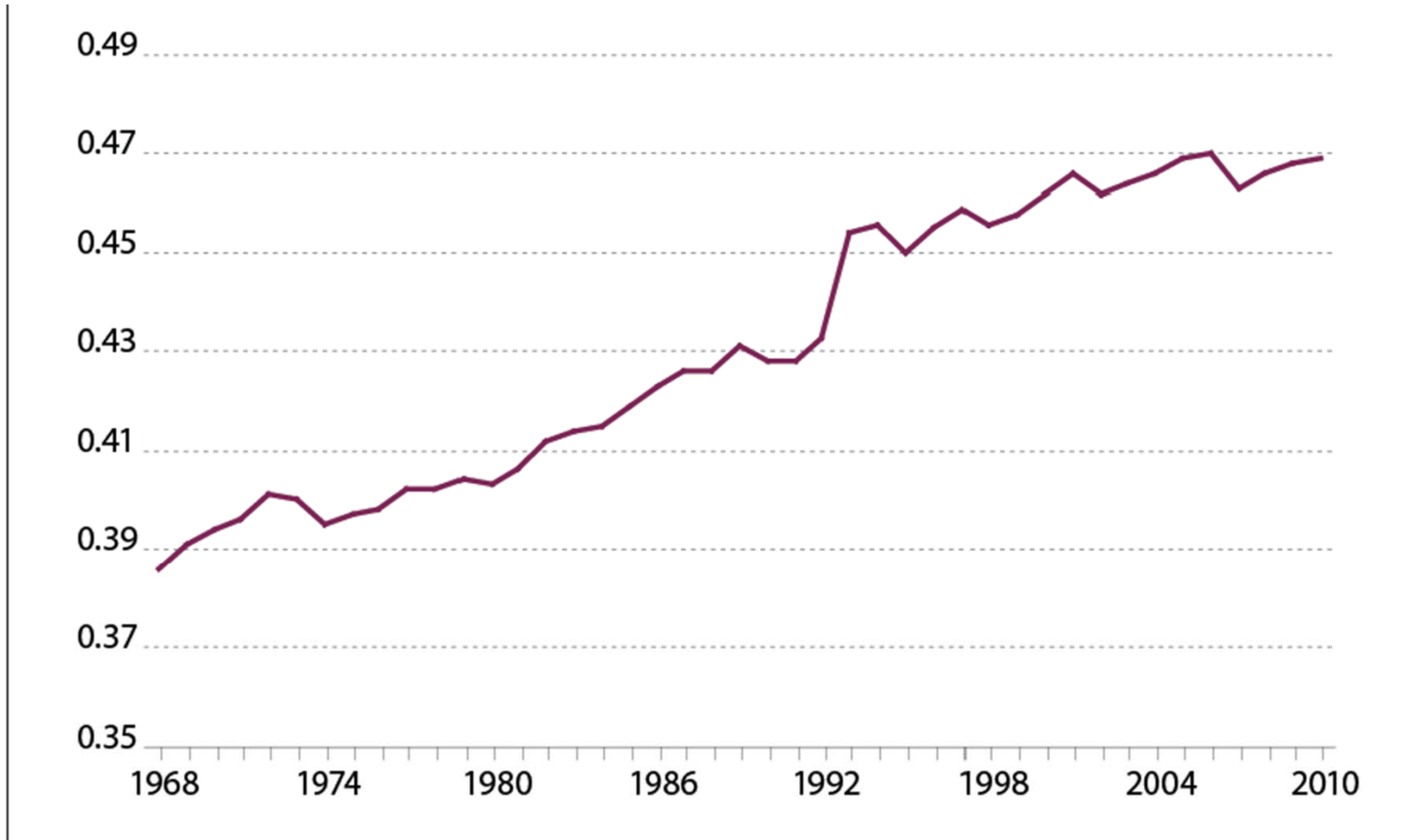


Figure 1 | Beyond the boundary. The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represents an estimate of the current positions each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded. Source: Johan Rockström, et. Al.(2009)

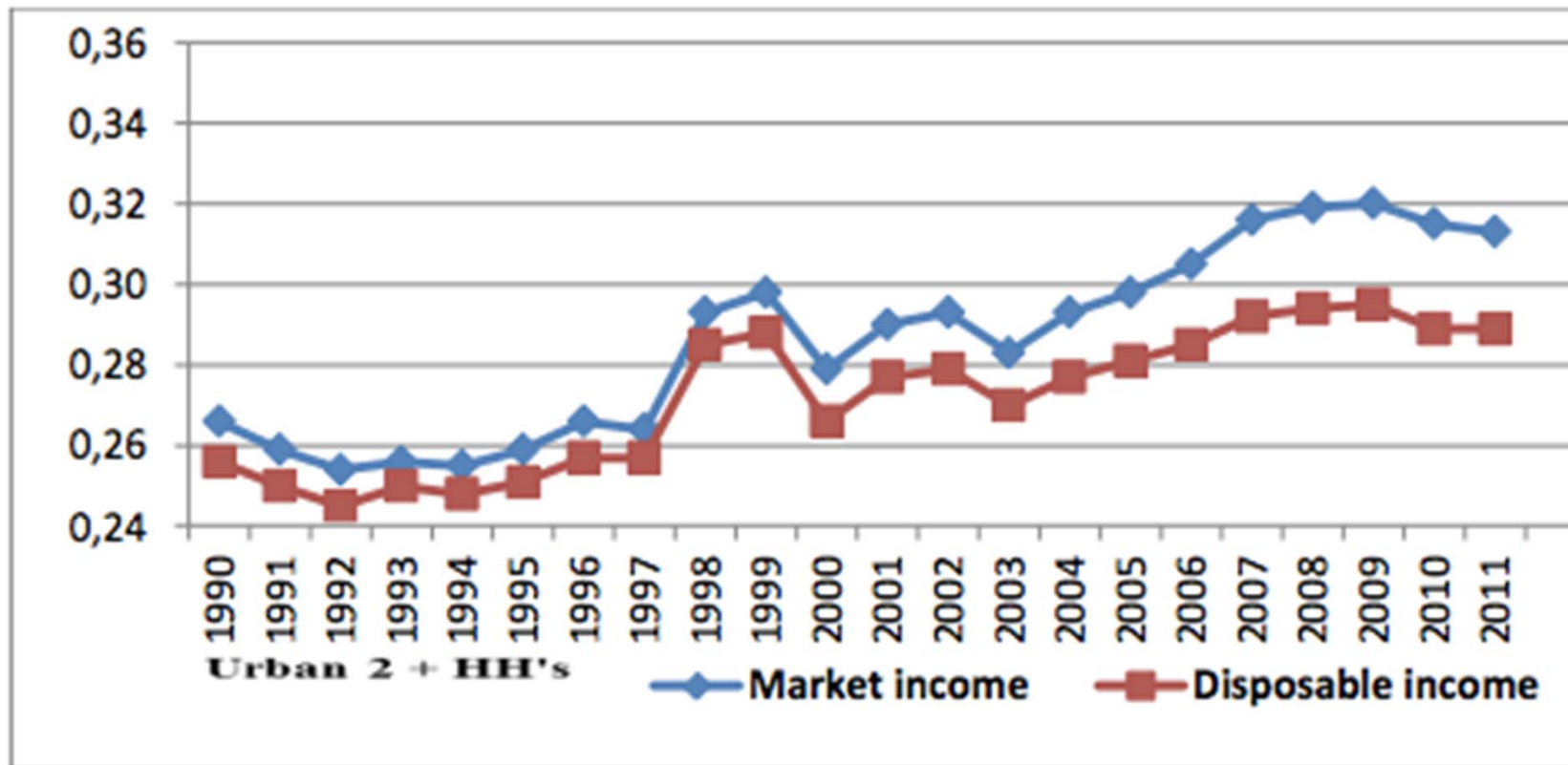
Gini Coefficient in US, 1968-2010



Source: US Congressional Research Service 2012

Gini Coefficient in Korea, 1990-2011

Figure 2.1 GINI Coefficient Trends: Urban 2+ HHs and Total HHs, 1990-2011.



Source: Korea National Statistical Office, Household Income and Expenditure Survey.

Social Turbulences around the World



Tunis, January 2011



Cairo, January 2011



Athens July 2011



Tel Aviv, August 2011



Chile, August 2011



New York City, November 2011



Madrid, September 2012



Istanbul, June 2013



Rio de Janeiro, June 2013

Part III.

Coping with Sustainability Challenges – Post-2015 Agenda

1. Developmental Crises of Nations: Korean Example

- **Polarization of Economy and Society:** Persistent youth unemployment, social inequalities rising, unhappiness and suicidal rates highest in OECD
→ *From a Hungry Society to an Angry Society?*
- **Serious LT threats to economic prosperity:** fast ageing, weak social welfare foundation, the 7th largest emitter of GHG, the contingency of inter-Korean unification as a threat
- **Environmental threats:** air pollution, ecosystems degradation and climate disaster vulnerability
- **Governance failure worsening:** corruption and increasing complacency among officials, frequent multiple-death accidents, a non-performing political system
- People increasingly question whether Korean society is sustainable
→ **Need for a national SD architecture.**

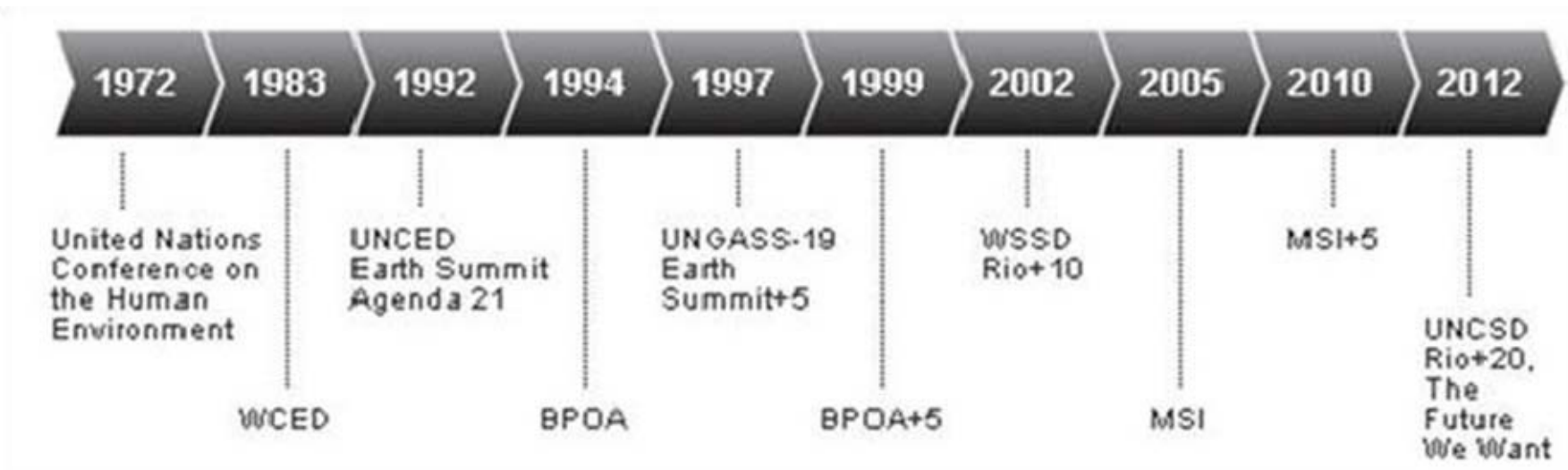
2. Sustainable Development as a Global Challenge

- **Acceleration of technology changes and globalization** → Competition intensifies while transition to knowledge-based economies → Marginalize in-adaptive groups, including countries → Economies and societies polarized & inequalities rise.
- **Acceleration of globalization and spread of ICT** → Increasing mobility of capital and people → Globalization of financial and social instabilities → Multi-polarization of economic and political order → Rise of regional conflicts, spread of terrorism and diseases → Perpetual threats to economic stability and human safety
- **Rapid population growth in developing countries** and continuing economic expansion → Continuing consumption of fossil fuels and other natural resources → Emissions of GHG and wastes continue → Planetary boundaries being transgressed → The ***crisis of the anthropocene*** → *See the next slide.*
- **The world at a crossroads:** economic, social and environmental sustainability of the global community in a crisis → *To co-prosper with global cooperation for SD **or** to collapse together under BAU?*

3. UN's History on Sustainability Development

Development of Inter-governmental Cooperation

- Since the adoption of the UN Charter in 1945, the organization has been heavily focused on peace, human rights, and international cooperation.
- In 1972, the UN expanded their focus to the environment and sustainability.
- Multiple summits and conferences have been help to promote the inter-governmental process on the environment and sustainability.



Source: Robert Brinkmann(2012), *Overview of Sustainable Development Policy and Practice*, powerpoint presented at Rio+20.

4. UN Conference on Human Development (1972)

- In 1972, the UN organized a **Conference on the Human Environment in Stockholm**, Sweden that resulted in the development of the **UN Environmental Programme**.



- Widespread industrialization, the early phases of modern globalization, and destruction of ecosystems was of paramount international concern.
- **First Earth Day in 1970**, at this time local and national governments started making a push to protect the environment.
- The first international meeting of countries that addressed the impacts of global environmental degradation and its causes.
- Provided a framework for addressing these issues and suggested policies, educational approaches, and national strategies
- Environmental Programme has worked on a variety of issues identified in the Stockholm report.

Source: Robert Brinkmann(2012), *ibid*.

5. The Brundtland Report defines ‘Sustainable Development’

‘Our Common Future’, by the World Commission on Environment and Development (1987):

What is needed now is a new era of economic growth – growth that is forceful and at the same time socially and environmentally sustainable.

(p.xii)

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

(p.43)

6. The UN CED (1992) and Other Initiatives in the 1990s

- **UNCED** (1992): **Rio Declaration** on Environment and Development, **Agenda 21** (local sustainable development (not national... city/state level), the **Framework Convention on Climate Change**, and the **Convention on Biological Diversity**, and the **Convention to Combat Desertification**.
- **Barbados Programme of Action (BPOA)** (1994): The UN recognized that **small island states** have **unique problems associated with sustainability**: they are exposed to **unique hazards** such as earthquakes, tsunamis, and global climate change; they have **limited resources such as fresh water**; and they often have **trade or economic challenges**.
- **UN General Assembly Special Session 19 (UNGASS)** (1997): This General Assembly met in 1997 to **review the progress of Agenda 21**. The report of the session notes that there were a number of problems associated with the implementation and overall success of the plan.
 - > Plan needed to be more specific with better goals. **Globalization proved to be a greater challenge than imagined.**

Source: Robert Brinkmann (2012), *ibid*.

7. The Millennium Development Goals (MDGs)

- In 2000, the UN hosted a **Millennium Summit** to discuss the role of the UN in the coming century.
- Millennium Goals were established with specific targets:
 1. Eradicating **extreme poverty and hunger**
 2. Achieving **universal primary education**
 3. Promoting **gender equality and empowering women**
 4. Reducing **child mortality** rates
 5. Improving **maternal health**
 6. Combating **HIV/AIDS, malaria, and other diseases**
 7. Ensuring **environmental sustainability**
 8. Developing a **global partnership for development**
- The MDGs are **regularly evaluated** and **report cards by countries and region** have been created.

8. UN Work on Sustainability in the 21st Century



- **World Summit on Sustainable Development (WSSD)** (2002): There were several outcomes including the **Johannesburg Declaration on Sustainable Development**, including national assessment reporting by countries. **Updated the Bruntland Report and Agenda 21** on problems associated with **globalization, income disparity, and multinational cooperation.**
- **UN Conference on Sustainable Development (CSD) (Rio+20)** (2012): The outcome report, called **The Future We Want**, details a number of key initiatives. One of the results of the effort was a call for strengthening participation of all countries in international sustainable development processes. **Decision** from member states to set up an intergovernmental process **to develop Sustainable Development Goals (SDGs) along with targets and indicators.**
- Leading up to the Rio+20 conference, the CSD held annual sessions (CSD1 through CSD19) where nations have participated in policy programmes of the CSD.

Follow-up to the outcome of the Millennium Summit (UN GA, 1 Oct., 2013): “... we are determined to craft a strong **post-2015 development agenda**, that will **build on the foundations laid by the MDGs, complete the unfinished business and respond to new challenges....** Recognizing the intrinsic interlinkage between poverty eradication and the promotion of SD, ...”

→ “a single framework and set of goals, universal in nature and applicable to all countries, while taking account of differing national circumstances and respecting national policies and priorities.”

→ **Sustainable Development Goals (SDGs)** → Post-2015 development agenda

9. Yet Economic Development is Not Sustainable

- Growing Income Inequality and Social Exclusion
- Continued Poverty, Disease and Demographic Traps in Much of Africa and Parts of Asia
- Growing Environmental Crises

(Jeffrey Sachs)

10. Three HL Meetings for a New Era of SD in 2015

*The stars are aligned for the world to take historic action **to transform lives and protect the planet**. I urge Governments and people everywhere to fulfill their political and moral responsibilities. This is my call to dignity, and we must respond with our vision and strength.*

– UN Secretary-General, “**The road to dignity: ...**”, 4 Dec. 2014.

- **Summit on Sustainable Development** (NYC), Sept. 25~27
→ **Post-2015 Development Agenda & SDGs**
→ **A paradigm shift for people-centered, planet-sensitive development**
- **UNFCCC COP21** (Paris), December → **A new universal agreement on climate change actions**
- **International Conference on Financing for Development** (Addis Ababa), July 13~16 → **‘Addis Ababa Accord’** for a global partnership to finance for sustainable development

11. Universality of Post-2015 SD Agenda

- *Humankind faces the same global challenges, and **today's problems transcend borders - even in the richest countries, there can be destitution and exclusion.***
- *Universality implies that **all countries will need to change, each with its own approach, but each with a sense of the global common good.***
- *It compels us to **think in terms of shared responsibilities for a shared future. It demands policy coherence.***
- *Universality embodies a **new global partnership for sustainable development (SD) in the spirit of the UN Charter.***

12. Key Objectives of the Post-2015 Agenda

- It should be a **people-centered and planet-sensitive agenda**.
- It should **leave no one behind**.
- It should address the urgent need to recognize and **address the trust deficit between Governments, institutions and the people**.
- It should seek **to address climate change** and also **to preserve our oceans, marine resources, terrestrial ecosystems and forests**.
- It should seek **meaningful transformation of our economies**, making our patterns of **growth more inclusive, sustained and sustainable**.

13. Different Versions of SDGs Proposed

- The UN **Sustainable Development Solutions Network (SDSN)** proposed 10 Goals, 30 Targets and 100 Indicators (“An Action Agenda for Sustainable Development: Report for the UN Secretary-General”, 2013 & Rev. 2014)
- The **High-level Panel of Eminent Persons** on the Post-2015 Development Agenda proposed 12 Goals and 54 Indicators (“A New Global Partnership:...”, 2013).
- The UN **Open Working Group** proposed 17 Goals and 169 Targets, with 2 groups of targets per goal, one for national agenda and the other one for international agenda on Mol (July 2014).
- On December 4, 2014, UN Secretary-General Ban Ki-moon issued a **Synthesis Report** on the Post-2015 Agenda, *“The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet”*.

14. The SDGs Proposed by the OWG

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts*
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development

** Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.*

15. SDG11 Targets on Cities & Human Settlements

- 11.1 by 2030, ensure access for all to adequate, safe and affordable **housing** and **basic services**, and upgrade **slums**
- 11.2 by 2030, provide access to safe, affordable, accessible and sustainable **transport systems** for all, improving **road safety**, notably by expanding **public transport**, with **special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons**
- 11.3 by 2030 enhance **inclusive and sustainable urbanization** and **capacities for participatory, integrated and sustainable human settlement planning and management** in all countries
- 11.4 strengthen efforts to protect and safeguard the world's **cultural and natural heritage**
- 11.5 by 2030 significantly reduce the number of deaths and the number of affected people and decrease by y% the economic losses relative to GDP caused by **disasters, including water-related disasters**, with the focus on **protecting the poor and people in vulnerable situations**
- 11.6 by 2030, reduce the adverse per capita **environmental impact** of cities, including by paying special attention to **air quality, municipal and other waste management**
- 11.7 by 2030, provide **universal access to safe, inclusive and accessible, green and public spaces**, particularly for women and children, older persons and persons with disabilities

16. Systemic Causes of Sustainable Development Crises

- The *short-termism* of democratic governments to the neglect of long-term problems and policies neglected.
- **'Silo' effects** of the decentralized government organization ignore interdependence among problems and policies → **Failure to coordinate and optimize at the national level**
- Fierce **competition** among parties **for power** → **Failure of cooperation** for collective interests.
- **Absence of national visions and strategies to be shared** by citizens → Absence of norms of citizens' behaviors for national development → **Ill-advised views and private interests dominate** over collective interests
- **Absence of systemic international cooperation to address global problems**

17. SDGs should address systemic causes of SD crises

- The SDGs will **help the public understand the nature of the complex challenge of SD** and **provide guidance on how to address the challenge.**
- The **globally shared goals and targets will offer a unified set of action norms and agenda** and **help facilitate coherent actions by the global community.**
- Covering the period up to 2030, the agenda will **help overcome *short-termism*.**
- Integrating all relevant considerations into a coherent set goals and targets, well-crafted SDGs will **help overcome the silo effect problem** of decentralized government structure.
- Constituting **an action agenda based on quantitative goals and indicators**, the SDGs will enforce implementation, holding the governments and all other stakeholders accountable to one another.

18. Six Essential Elements for Delivering on the SDGs

- 1) **Dignity**: to end **poverty** and fight **inequalities**;
- 2) **People**: to ensure **healthy lives, knowledge**, and the inclusion of **women and children**;
- 3) **Prosperity**: to grow a **strong, inclusive, and transformative economy**;
- 4) **Planet**: to protect **our ecosystems** for all societies and our children;
- 5) **Justice**: to promote **safe and peaceful societies, and strong institutions**; and,
- 6) **Partnership**: to catalyse **global solidarity** for sustainable development.

19. UNSG: Principles for Truly Transformative SDGs

- Commit to a **universal approach**, with solutions that address all countries and all groups;
- **Integrate sustainability in all activities, mindful of economic, environmental and social impacts;**
- Address inequalities in all areas, agreeing that ***no goal or target be considered met unless met for all social and economic groups;***
- Ensure that all actions respect and advance **human rights**, in full coherence with international standards;
- **Address the drivers of climate change and its consequences;**
- Base our analysis in **credible data and evidence**, enhancing **data capacity, availability, disaggregation, literacy and sharing;**
- Expand our **global partnership for means of implementation** to maximum effect, and full participation, including multi-stakeholder issue-base coalitions...

20. UNSG: Towards the Final Post-2015 Agenda

- The GA agreed that **the OWG proposal should be the main basis** for the Post-2015 intergovernmental process.
- **Possible to maintain** the 17 goals **and rearrange them** in a focused and concise manner that enables the **necessary global awareness and implementation at the country level.**
- The Post-2015 SD Agenda should include **a compelling and principled narrative,**
- The Agenda should call for **full consistency with current political commitments and existing obligations** under international law
- Should **respond to the capacity challenges of countries** with varying capabilities and weaker institutions
- Will **require serious commitments for financing and other ‘means of implementation’ (MoI),** including those to be agreed in **Addis Ababa** in July 2015 and **Paris** in December 2015
- Should also include **strong, inclusive public mechanisms at all levels for reporting, monitoring progress, learning lessons and ensuring mutual accountability → a ‘global architecture for sustainable development’**

21. UN Technical Support Team: 'Means of Implementation'

- 'Means of implementation'(Mol) → the interdependent mix of financial resources, **technology development and transfer, capacity-building,** inclusive and equitable globalization and trade, regional integration, as well as the creation of a **national enabling environment** required to Implement the new SD agenda, particularly **in developing countries.**
- The implementation of the post-2015 agenda requires states and other relevant actors acting individually and collectively, to **adopt policies and mobilize resources** to advance SD → a renewed and strengthened **global partnership** for mobilizing Mol... **strengthening governance and accountability frameworks,** providing for **multi-stakeholder engagement,** ... **including for financing, technology innovation and diffusion,** and CB for people and institutions.

22. Mol: 'Financing our Future'

- SD is a complex challenge, with urgent requirements which have resulted in enormous financing needs. **All financing streams need to be optimized** towards SD, ...
- Governments should also be mindful of the **need for coherence and alignment with climate finance.**
- The OWG proposed a number of targets on Mol. The Intergovernmental Committee of Experts on SD Financing presented policy options.
- We must move to correct the inequities that have long plagued the international system, to the disadvantage of developing countries.
- There are high expectations for concrete outcome from the Third International *Conference on Financing for Development* in Addis Ababa that would set the stage for a successful outcome of the COP21 in Paris.

23. Mol: 'Technology, Science and Innovation for a Sustainable Future'

- **New technologies** are unlocking possibilities for SD. **The solutions they can generate, and the level of access they can enable**, will be crucial to our vision for SD.
- **Access to vital and environmentally sound technologies** is unevenly spread, both within and between countries.
- A sustainable future will require that we now act to **phase out unsustainable technologies to invest in innovation and the development of clean and sound technologies** for SD.
- **Developing countries, and LDCs in particular, will need** the support that will allow them to benefit from **enhanced access** to these technologies, and to **expand domestic innovation and the development of their own technological solutions**.

24. Mol: 'Investing in Capacities for Sustainable Development'

- Countries need to **integrate post-2015 goals in national planning, policy, budget, law and institutions**. They will require **integrated institutions** that are effective and **human resources** equipped with the skills and capacities to deliver SD.
- Governments, in consultation with all stakeholders, will need to **review national strategies and policies** to support progress towards the goals, consistent with national priorities.
- Institutional and human capacities will need to be strengthened for **effective implementation and monitoring**. This includes **bolstering capacities to assess needs, collect data and formulate responses across sectors and institutions**.
- Developing countries will need **support for capacity building**.

25. “Delivering on the Agenda – a Shared Responsibility”

- Measuring the new dynamics: **Goals** need **measurable targets** and technically rigorous **indicators**.
- An evidence-based course for realizing SD requires a new ‘data literacy’ – **a data revolution for SD**.

- **Gauging progress: monitoring, evaluation and reporting:**

The new agenda must become part of the contract between people and their governments... We must **embrace a culture of shared responsibility** ... must apply to all actors ..., **at both the national and international levels**. It **must include opportunities for mutual review, and mutual support at the regional and global levels**.

26. Need to Build the Governance Architecture for SD

- We need to integrate economic, social and environmental dimensions across the new agenda.
- We should develop concrete **goals** together with **measurable and achievable targets**.
- The agenda and goals should effectively become **an integral part of national and regional visions and plans**.
- The agenda requires **serious commitment for financing and other means of implementation**, including those to be agreed in Addis Ababa in July 2015 and Paris in December 2015.
- We need norm-based policy coherence at all levels, corresponding **reforms of global governance mechanisms and a renewed effective global partnership for sustainable development**, covering **financing, technology facilitation and capacity-building**.
- We need to develop strong, inclusive participatory **public mechanisms at the national, regional and global levels to review implementation**, that is, for reporting, monitoring progress, learning lessons, and ensuring mutual accountability.
- We need to launch **a data revolution** to make information and data more available, more accessible and more broadly disaggregated.

Part IV.

Korea's Response to the Post-2015 SD Agenda

1. What Korea Is Expected to Do under the Terms of the Synthesis Report

- **Adopt Korea's own set of SDGs inclusive of targets unique to Korean circumstances.**
- **Develop a national SD strategy.**
- **Build appropriate domestic governance arrangements for SD.**
- **Strengthen the institutional and human capacity for implementation and monitoring of SDGs.**
- **Contribute to the means of implementation for developing countries: financing for SD, technology facilitation and capacity-building.**

2. Korea's Response to the Post-2015 Agenda – 3 Strategic Priorities

- 1) Be an **exemplary leader in launching transformation** of the national development paradigm **toward people-centered, planet-sensitive and resilient development.**
- 2) Adopt an **inspiring development cooperation agenda** for Global Development Partnership.
- 3) **Explore and spearhead global cooperation for deep decarbonization** for the 2 degrees scenario (2DS).

3. Korea's Response (1):

Launch Transformation of National Paradigm

- **Recognize the importance of domestic Implementation of the SDGs** and build an appropriate national architecture for SD. Aim to **make the most of the SDGs as a means of addressing all of its serious domestic threats to SD to the extent possible**, by adopting its own SDG set that is inclusive of all targets which address those threats, including climate change.
- **Integrate these SDGs into a national SD strategy, as well as into the national vision, planning, policy, budgets, law and institutions under the strategy.** Develop a **financing strategy for sustainable development.**
- Build appropriate governance arrangements for SD and **strengthen the capacity for implementation and monitoring of SDGs.**

4. Korea's Response (2): Adopt an Inspiring Agenda for Global Partnership

In building the Global Development Partnership, Korea can play a special role as a country with **an inspiring modern development experience of successful transition from a war-torn lowest-income developing country to an advanced industrial country during the second half of the last century.**

Korea should aim to help developing countries build their capacities for realization of their SDGs by sharing its experiences and knowledge as well as appropriate technologies for their sustainable development with:

- **Knowledge and Technology Sharing Programs;**
- **A 'Korean SDG9 Initiative for Sub-Sahara Africa',** to engage the Korean business community, retiring engineers and *saemaul* campaign corps of young volunteers in helping to launch inclusive and sustainable industrial development in the poorest countries in the region; and
- **enhanced financial assistance, including through ODA** and contributing to selected **Addis Ababa Accord projects such as the proposed Global Education Fund.**

5. Korea's Response (3): Spearhead Cooperation for Deep Decarbonization

- The SDSN Leadership Council has proposed **global climate change cooperation to promote the convergence of UNFCCC countries' INDCs with the national deep decarbonization paths (NDDPs) required by the Cancun goal** of limiting global warming to not more than 2°C relative to the pre-Industrial Revolution era.
- This would require countries to **'backcast' those NDDPs geared to the common benchmark of 1.6tCO₂e per capita by 2050, to check official INDCs against NDDPs and to jointly explore international technology and other cooperation** which would enable countries to revise and strengthen the INDCs toward the NDDPs.
- Under this approach, individual countries will be engaged in **the long-term RDD&D efforts** to improve and realize their NDDPs, thereby pursuing low-carbon green growth strategies. Global cooperation through the UNFCCC process should eventually enlist all in this common endeavor, make it possible to realize the Cancun goal, and at the same time bring the benefits of low-carbon green growth for all.
- As a leading proponent of low-carbon green growth, **Korea should endorse and champion the SDSN proposal for adoption at the UNFCCC COP21.**

Part V.

Green Growth: Korea's Experience and Perspective

1. Ground-breaking for an Industrial District in the Ulsan Fishing Village in 1962



2. General Park Chung-hee's Wish at Ulsan Ground-breaking

Excerpts from Park's ground-breaking speech inscribed in the commemoration Monument on the site of the ground-breaking ceremony:

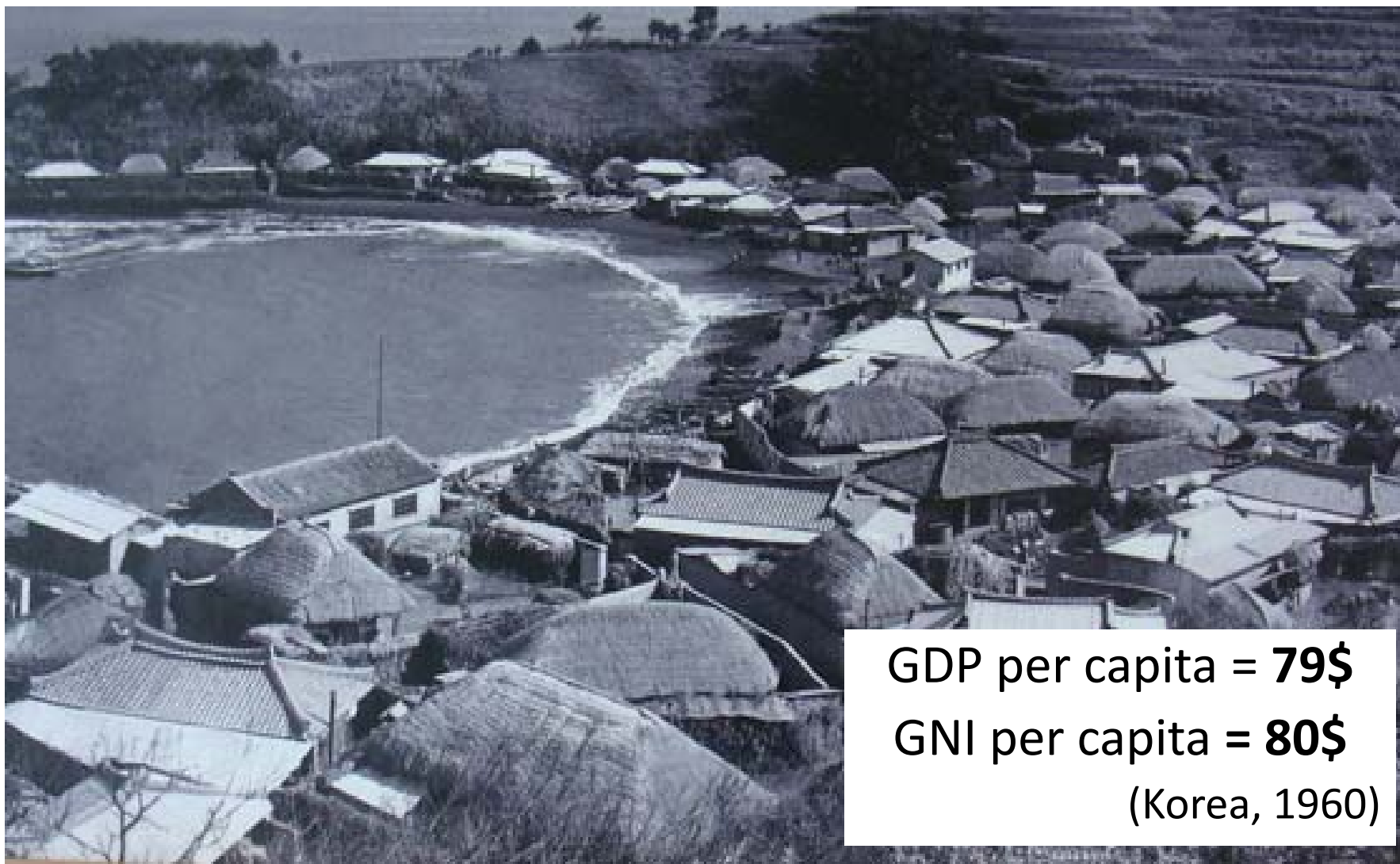
"... We now launch the construction of a new industrial city here in Ulsan in order to wash away our 4 thousand years' history of poverty and to earn wealth and respect which we have for so long craved. We mean to realize the nation's wish to exceed the German miracle of Ruhr and relive the glory of the Shilla Dynasty*. Today' ground-breaking is our national rally to launch the foundation for the Koreans' renewal, to create a treasure house of provisions for the next 100 years, and to ensure the prosperity of our posterity for a long time to come. **When someday the loud noise of the manufacturing plants vibrate through the waters of the East Sea and black smokes from factory chimneys rise into the Ulsan sky, then that will be the day when the Koreans' wish for prosperity has been realized...**"

February 3, 1962

General Park Chung-hee
Chairman, Supreme Council for National Reconstruction

*The ancient kingdom that emerged out of the Kyongju-Ulsan region to unify the peninsula into a prosperous and powerful country in East Asia 2000 years ago.

2. Ulsan Fishing Village in 1960s



GDP per capita = **79\$**
GNI per capita = **80\$**
(Korea, 1960)

Source: Economic Statistics System (<http://ecos.bok.or.kr/>)

3. Ulsan City Achieves Success in 1990s

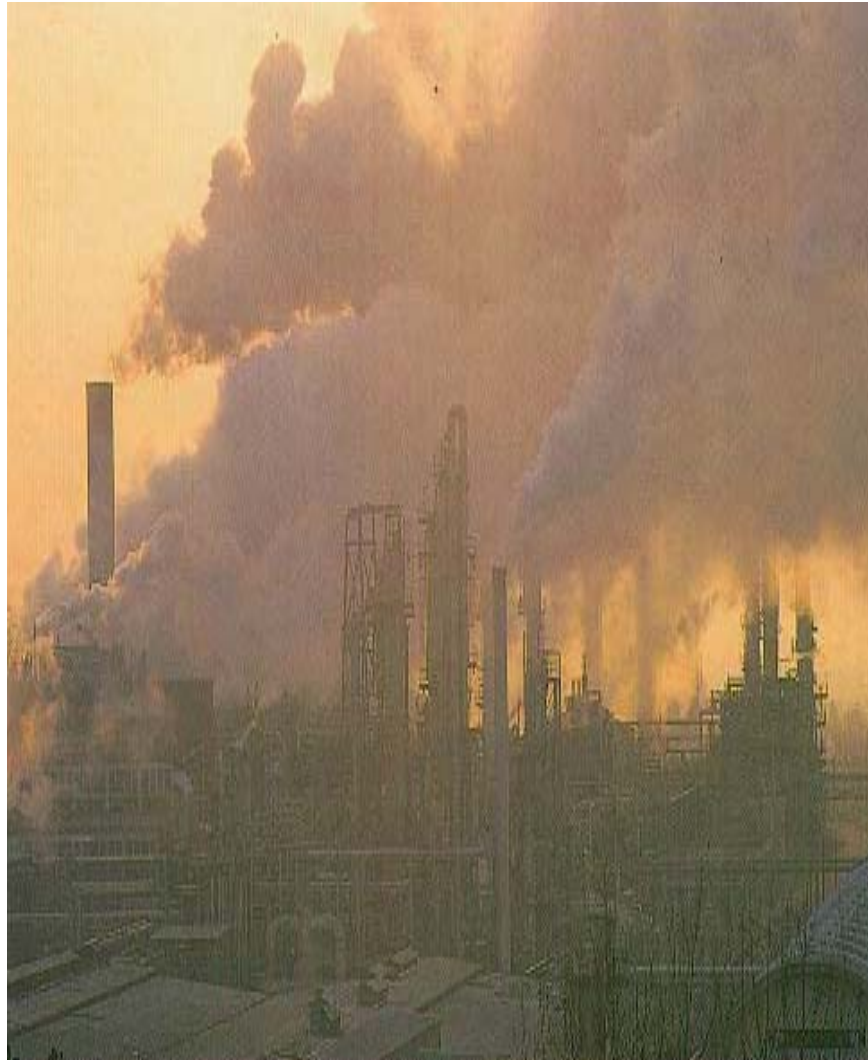


GDP per capita = **13,133\$**
GNI per capita = **13,077\$**
(Korea, 1996)



Source: Economic Statistics System (<http://ecos.bok.or.kr/>)

3. Ulsan City Achieves Success in 1990s but...



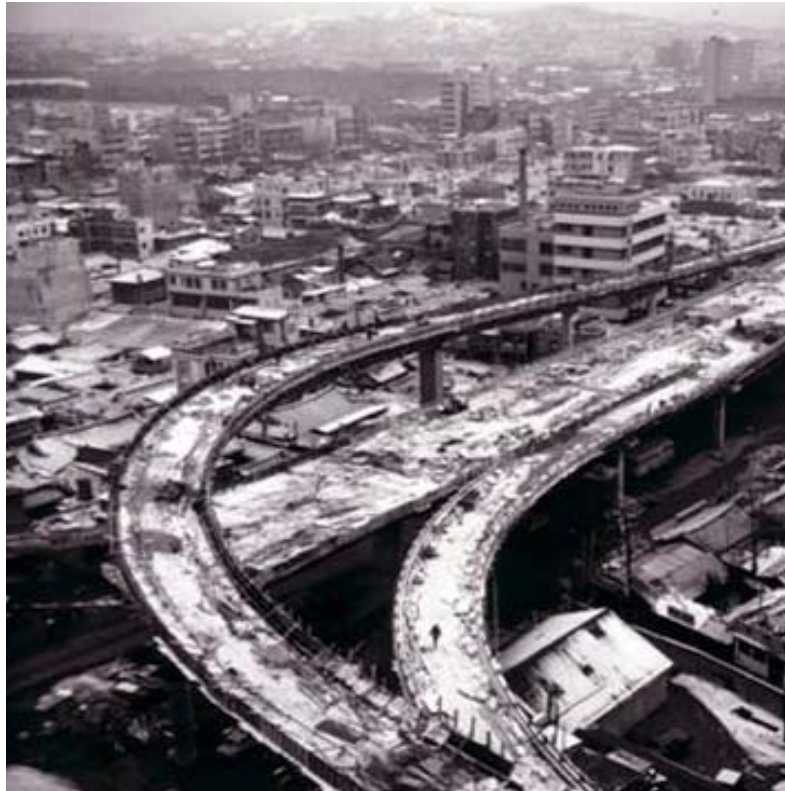
4. Ulsan City Prosperous *and Green* in the late 2000s



5. The Cheonggye Stream through Seoul in the 1950s



6. The Cheonggye-cheon (Stream) Highway for Compressed Industrial Development in 1970s & 2000s



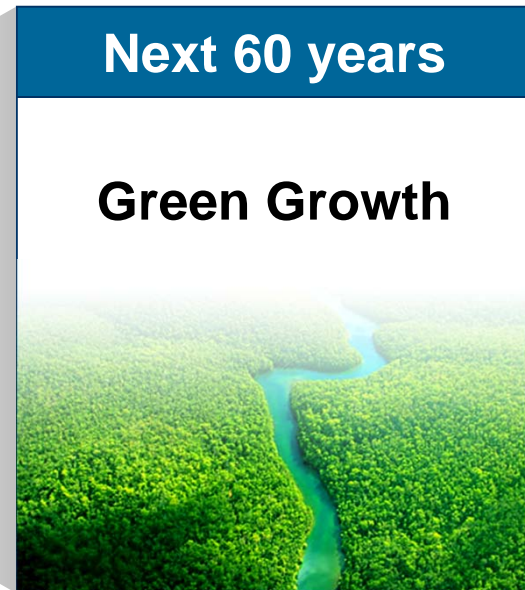
7. The Cheonggye-cheon Restored and Greened Today



8. Green Growth Declared a New Development Vision

- All this began with the declaration of ‘low carbon, green growth’ as Korea’s new development vision by President Lee Myung-bak in August 2008.

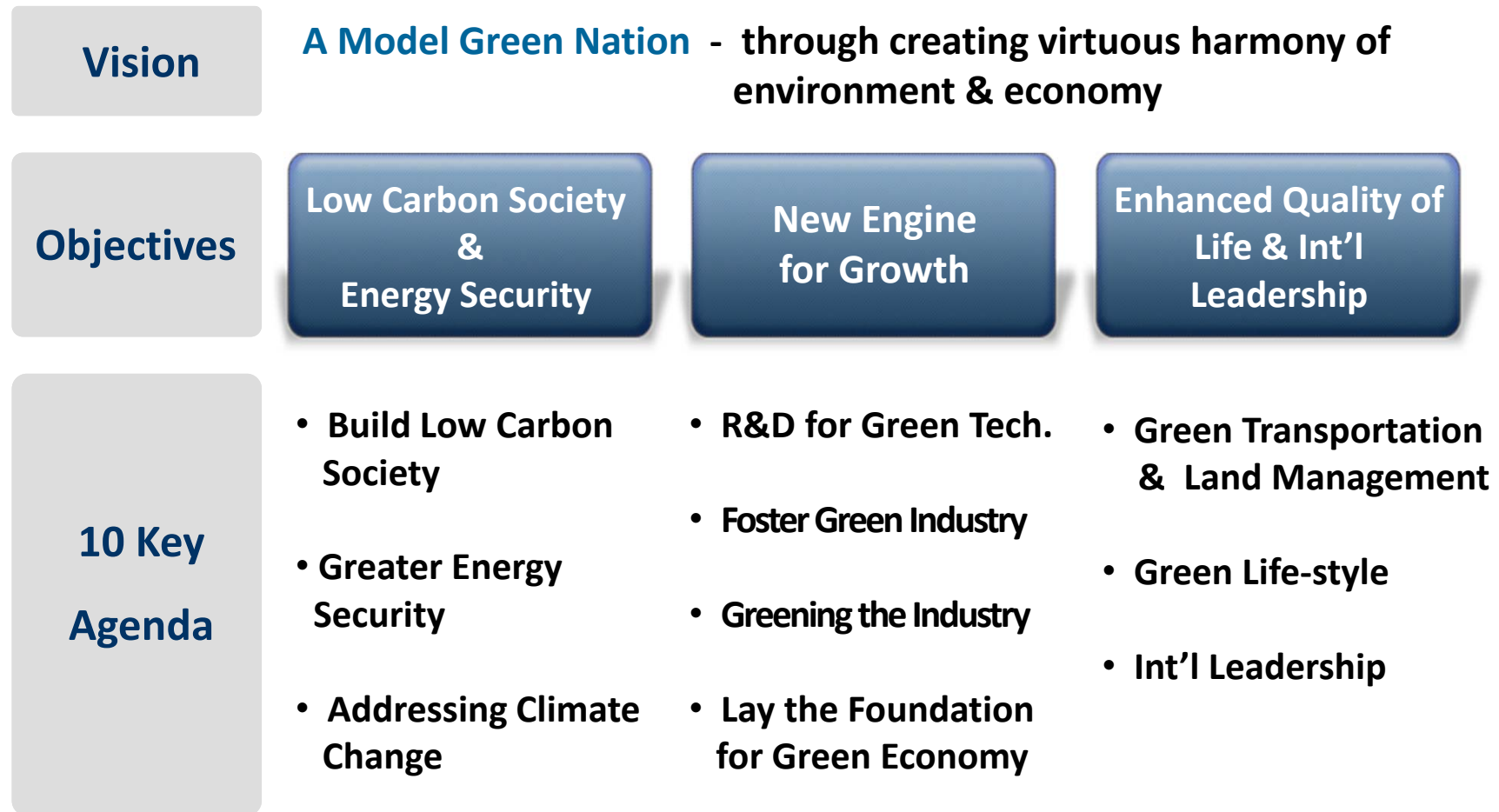
“Green growth seeks sustainable growth by reducing GHG emission and environmental pollution. It is a new development paradigm which creates new growth engines and new jobs from green technologies and clean energies.”



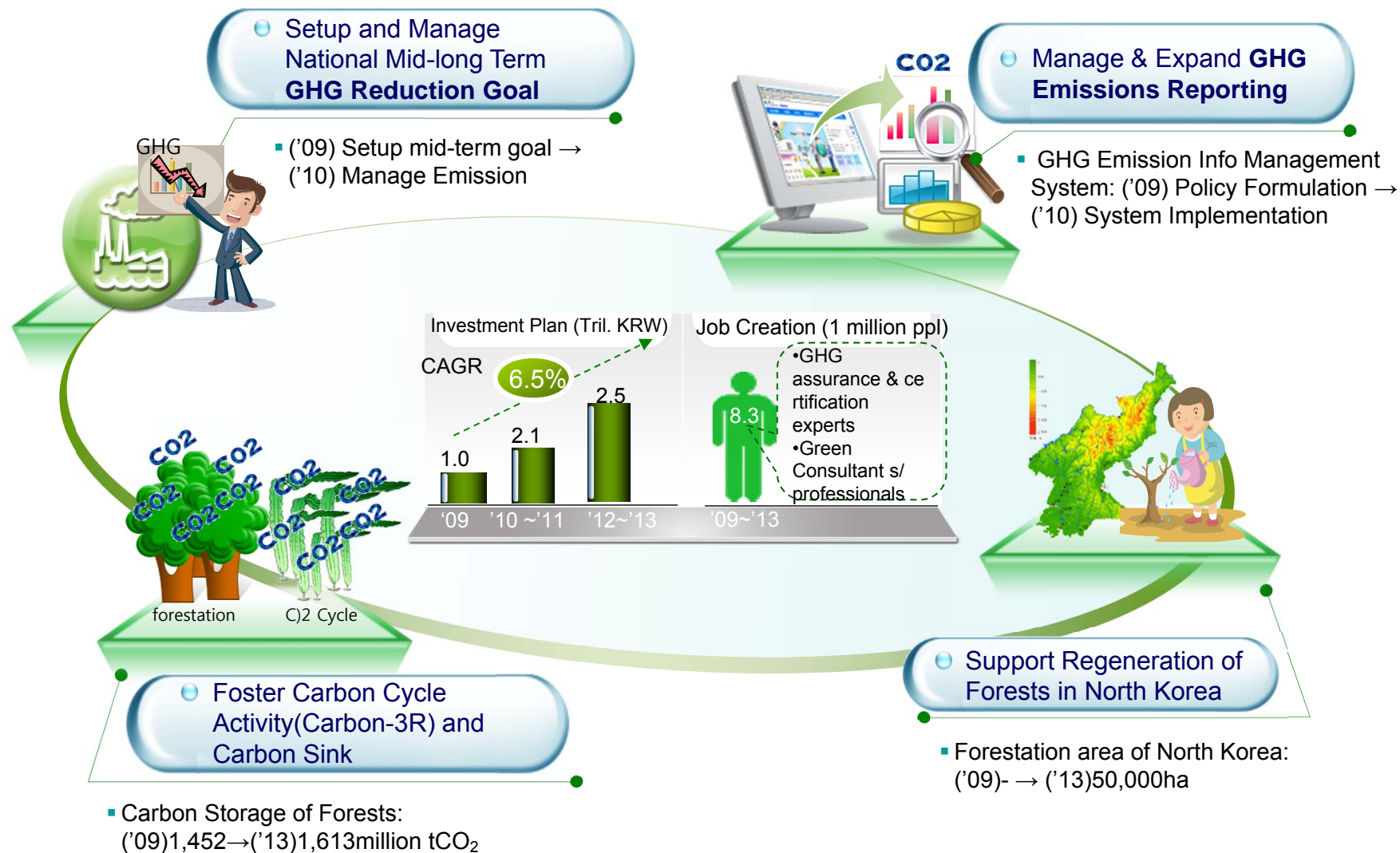
9. Laying the Foundation for Green Growth: Milestones

- **Presidential Committee on Green Growth launched in February 2009 as the highest body for deliberation and coordination.**
- **The National Green Growth Strategy and the Five-Year Plan for Green Growth (2009~2013) prepared in 2008.**
- **President Lee declares Korea's MT GHG emission reduction target of 30% BAU by 2020 in Copenhagen in 2009.**
- **National Assembly passed the Framework Act for Low Carbon Green Growth at the end of 2009.**

10. National Green Growth Strategy: Framework



11. Policy Programs by Agenda: 1) Mitigate GHG Emissions



12. Policy Programs by Agenda: 2) Reduced Fossil Fuel

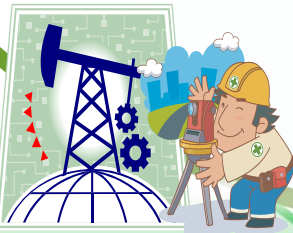
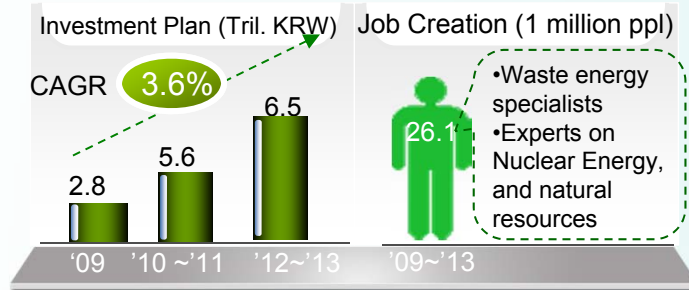
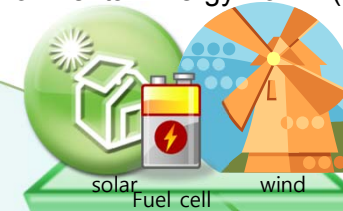
Manage Energy Efficiency and Energy Demand



- Expand use of high efficient instruments: ('13)
- Eliminate incandescent lamp
- Energy base unit : ('09)0.32→('13)0.29 toe/ \$1k
- Introduce and run Energy Target Mgmt. System

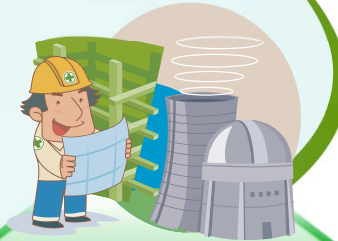
Foster Industrialization of Renewable Energy

- The diffusion rate of renewable energy : ('09)2.7→('13)4.0%
- Green Home : ('13)140,000 →('20)1 million houses
- Build Environmental Energy Town: ('09) - →('20) 14 towns



Expand of Global Resource Development Infrastructure

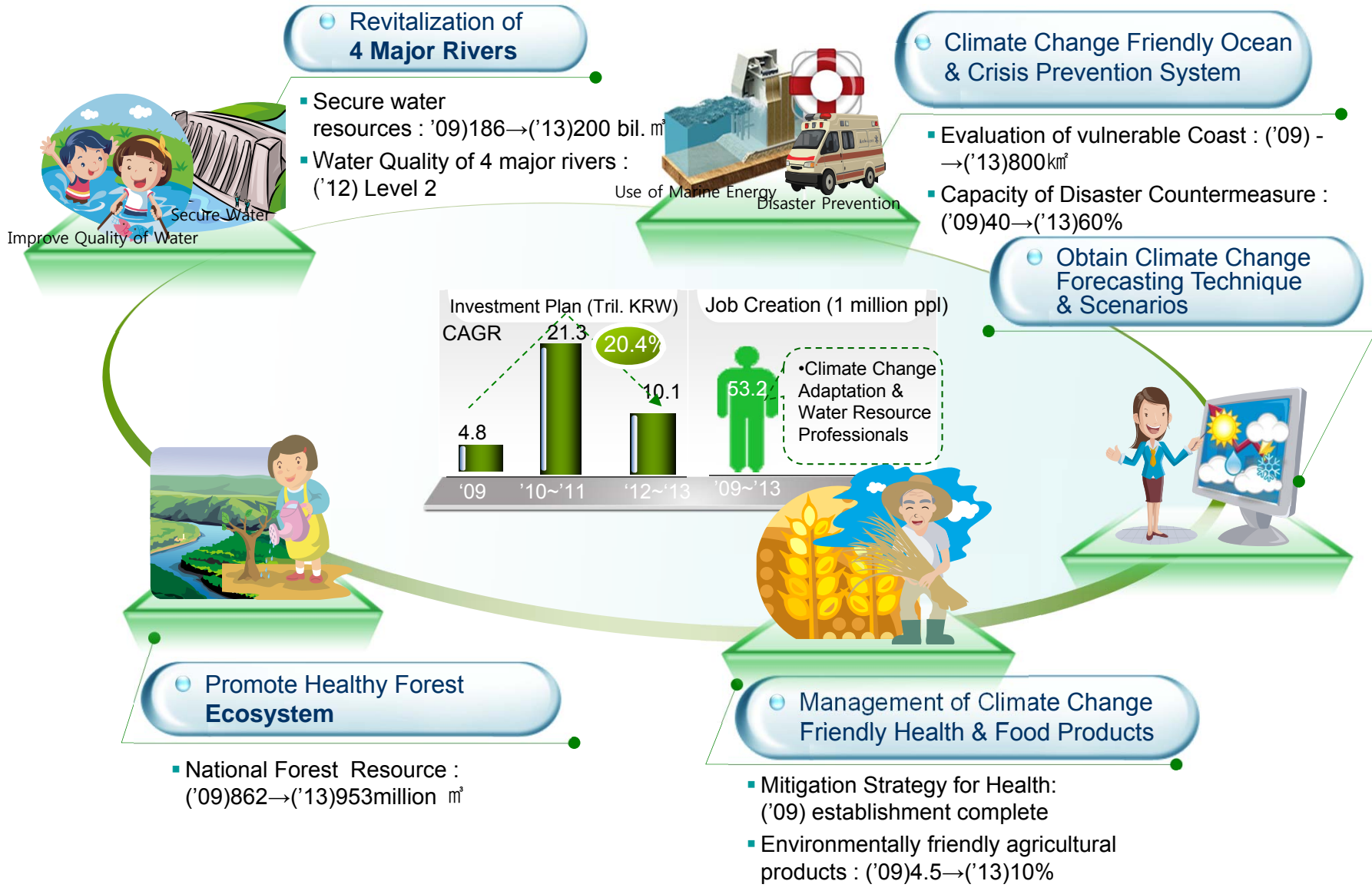
- Independent Exploitation Rate of Petroleum gas : ('09)7.4→('13)20%



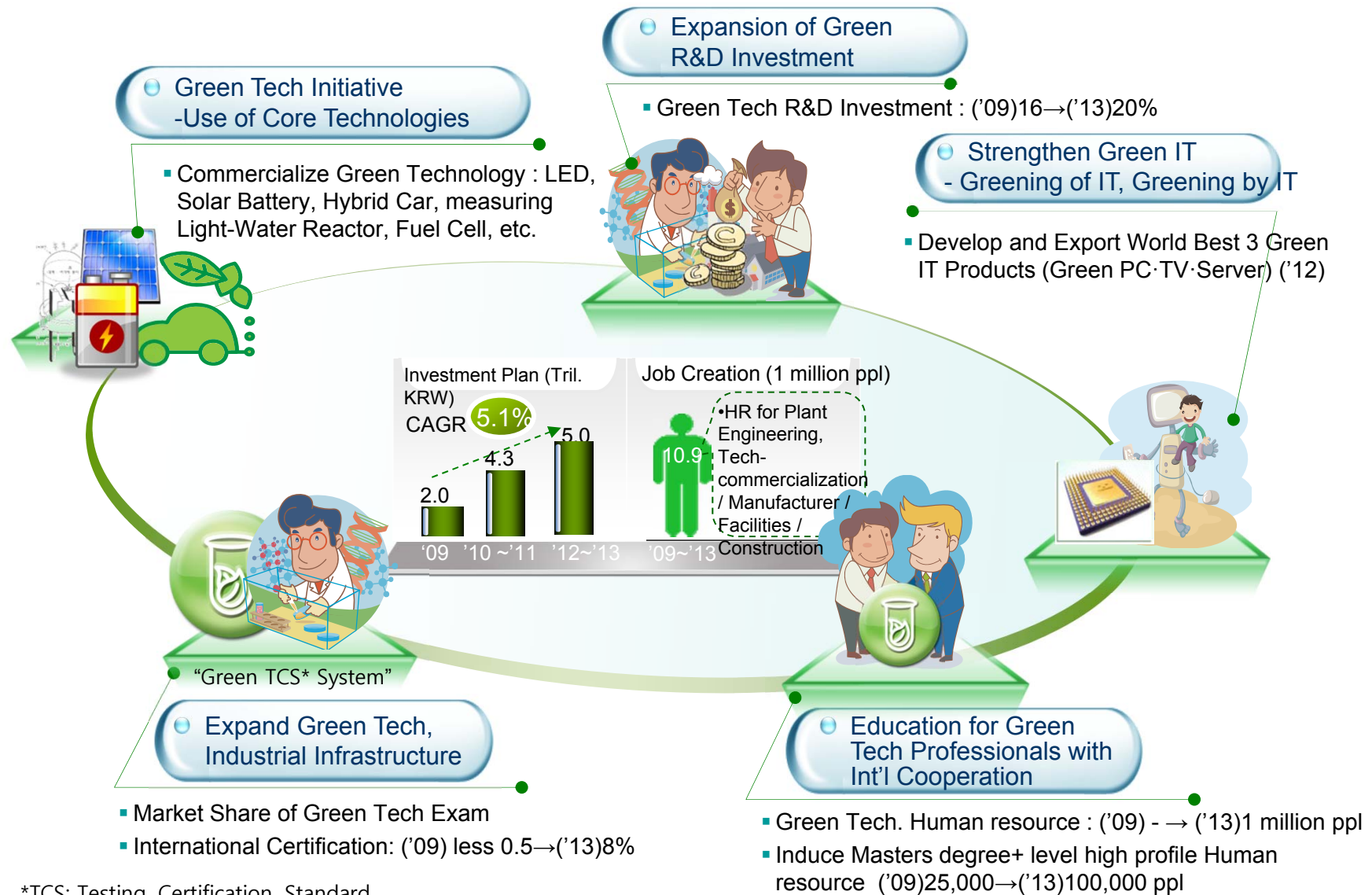
Increase Reliability and Relative Importance of Nuclear Energy

- KR's 1st Nuclear Energy Plant Export (1~2+)
- Develop KR's own technology for foreign-dependent nuclear energy technology ('12)

13. Policy Programs by Agenda: 3) Adapt to Climate Change



14. Policy Programs by Agenda: 4) Develop Green Technologies



15. Policy Programs by Agenda: 5) Green the Industries & Nurture Green Industries

Expand Green Industrial Complex



- Number of target industrial complex : ('09)5 → ('13)10 complexes (resource reuse, renewable energy, IT based system, etc.)

Enhance Green Partnership with Large-Mid-Small Companies

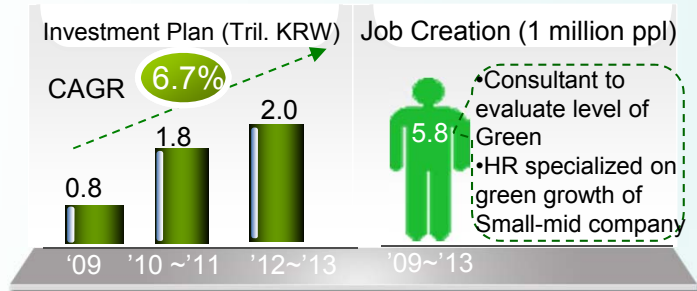


- Number of joining Green partnership : ('09)- → ('13)1,500 companies



Green Main Industry & Disseminate Green Business Structure

- Greening 9 main industries for Petrochemical, Steel, etc.
- Proportion of Green Product Export : ('09)10 → ('13)15%



Implement Structure of Resource Circulating Economy · Industry and Vitalize Urban Mining`

- Rate of Resource cycle : ('09)15→('13)17%
- Urban mining related R&D Support : ('09)90→('13)375billion KRW

16. Policy Programs by Agenda: 6) Advance the Industrial Structure

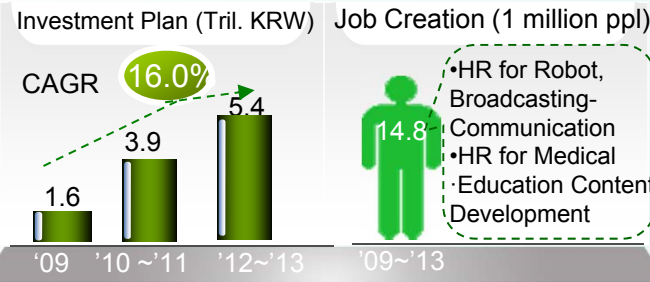
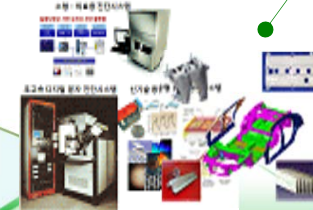
Broadcasting-Communication, IT, Robot Industries



- World Robot Market Share : ('08)8.9→('13)13.3%
- Amount of Exporting Broadcasting-communication Integrated Industry : ('08)520→('13)1,237billion USD
- Next Generation Wireless Communication, Life-care Robot, etc.

Vitalize New Materials·Nano Fusion, Bio-medicine Industries

- Local productivity of Bio Industry: ('08)6→('13)22 tril. KRW
- Nano Integrated Solutions: ('08)0→('15)30 products
- High-tech medical image examination machine, ultralight magnesium material, etc.



Promote High Value-added Sightseeing and S/W Contents, etc.

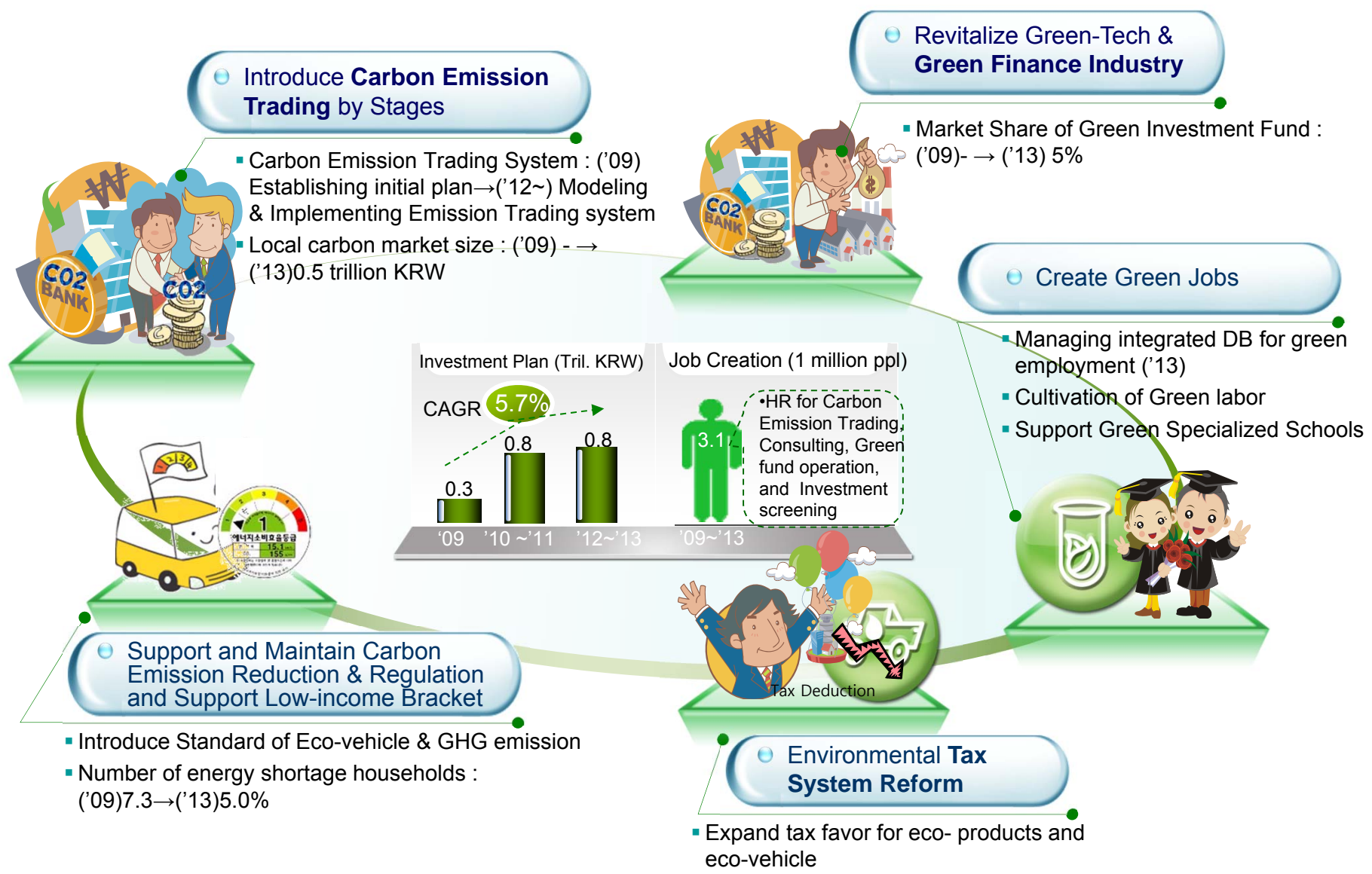
- Amount of S/W export : ('09)58 → ('13)81billion USD
- Number of MICE tourists : ('09)58 → ('13)1.58million ppl.
- * Meeting, Incentive Travel, Convention, Exhibition
- * Virtual reality Contents, Embedded*S/W, etc.
- * loaded S/W to support specific operation



Strengthen Global Healthcare & Educational Service

- Utilization Rate of U-Health : ('09)0.02 → ('13)14.8%
- Utilization Rate of U-Learning usage: ('09)45 → ('13)65%

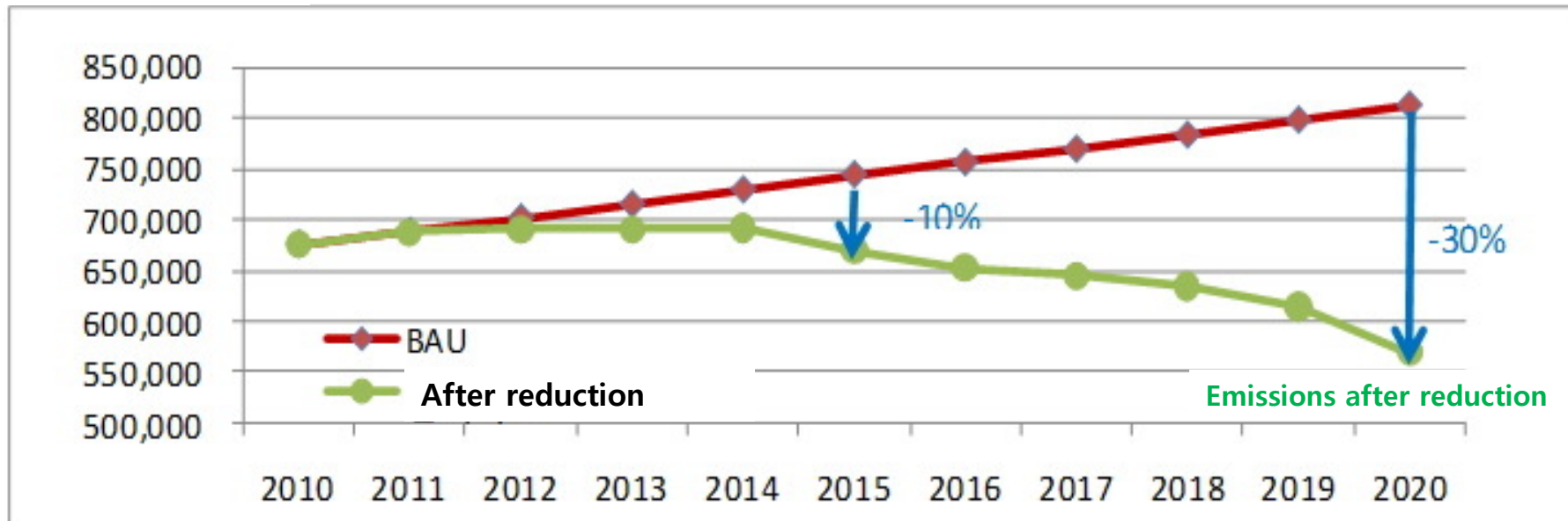
17. Policy Programs by Agenda: 7) Introduce Green Institutions



18. Korea's Emission Reduction Schedule till 2020

- The target is to reduce the total GHG emission by 30% of BAU by 2020.
- In absolute amount, total emission will begin to decrease in 2015.

(1000tCO₂-eq)



19. Korea Has just Launched an Emission Trading system

- **Korea allocated emission reduction targets by sector and industry. (October 2010)**
 - 7 sectors such as: manufacturing, transportation, buildings, etc.
 - 26 industries: steel, semiconductor, electronics, petrochemical, cement, etc.
- **GHG Target Management began in 2011**
 - 458 emitters (of more than 598M eCO2 tons/yr) given targets for 2012
 - The targets will be reduced each year.
- **An Emission Rights Trading Scheme launched in January 2015**
 - An ETS bill passed the National Assembly in May 2012 over protest from the industry.
 - Emitters above a certain level to shift from TMS to ERTS.

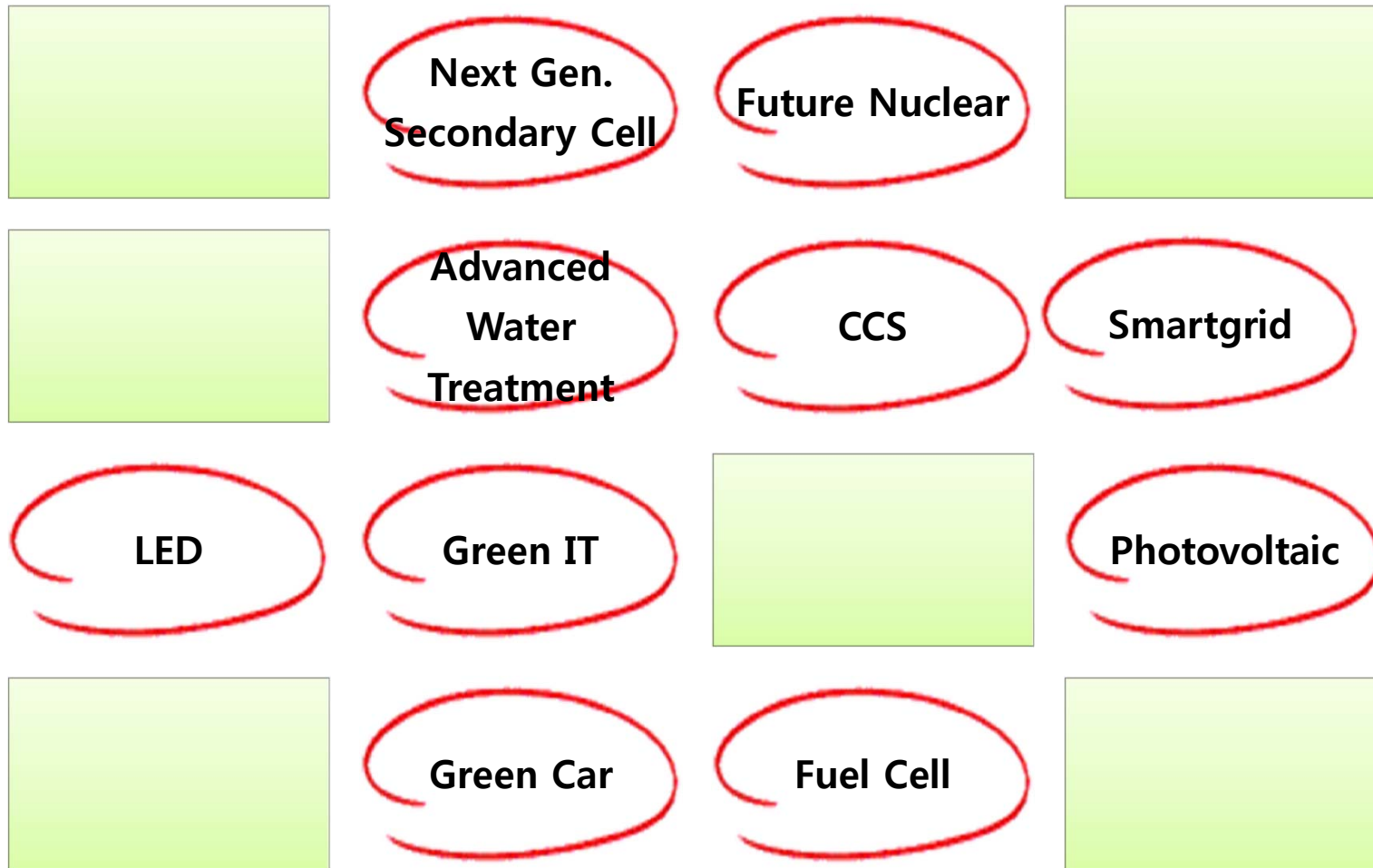
20. Various Other Measures for Emission Reduction

- **Power & Industry**: strengthen DM; RPS for renewables; nuclear power, bio diesel, etc.; energy efficiency labeling; registry for voluntary emission reduction; lifestyle changes (Green Card, etc.)
- **Buildings**: strengthen architectural standards for energy saving, certificates of energy efficiency, certify environment-friendly buildings, promote green buildings
- **Transportation**: strengthen DM, build infrastructure for EVs, facilitate production and deployment of high-efficiency cars, national HSR network
- **Agriculture & livestock**: promote reduction of GHG emissions from farms and livestock
- **Forestry**: preserve and secure more GHG sinks, increase bio energy from wood, etc.
- **Wastes**: reduce, recycle & reuse; produce waste energy

21. Innovation as Key to Green Growth

- **Korea's GG Strategy seeks to transform its economy's entire system of resources and energy uses across the whole range of sectors for sustained green growth, assisted by a new 'green' export dynamism.**
- **The key to sustained green growth will be a pervasive and continuing process of innovation, technological and institutional. This is key to delinking economic growth and environmental degradation.**
- ***The ultimate driver of innovation is the need to reduce GHG emissions to meet the declared target.***

22. 10 Core Green Technologies for R&D in the 2010s



23. The 2nd 5YP for Green Growth(2014~2018): 5 Goals

- **Effective reduction of GHG:**
 - establish a LT reduction plan

- **Build a sustainable energy system:**
 - Rationalize the electricity pricing and strengthen energy management
 - Expand the supply of renewable energy
 - Build a distributed power generation system

- **Create an eco-system for creative green industries:**
 - Facilitate RDD&D of green technologies
 - Promote resource-recycling industrial compounds

- **Realize a sustainable green society:**
 - Strengthen climate change adaption
 - Green everyday lives and consumption
 - Secure a green, safe and comfortable territorial environment
 - Build a cooperative green governance.

- **Strengthen global green cooperation**

24. Korea's International Initiatives for Global GG

- President MB Lee proposes to spearhead low-carbon development at Toyako G8 Summit in June, 2008, and launched the East Asia Climate Partnership Initiative, a green ODA program in 2008.
- Korea declares and launches the Green Growth Strategy in August, 2008.
- Korea declares a voluntary emission reduction target at Cancun COP in 2009.
- The OECD Ministerial Declaration on Green Growth in 2009 at Korea's proposal.
→ The OECD report released in 2011, "Towards Green Growth", proposing to include green growth in national economic review.
- Korea launched the Global Green Growth Institute in June 2010 to promote green growth as a new paradigm for developing countries.
→ An international organization since 2012

25. What is green growth?

Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.

To do this it must catalyse investment and innovation which will underpin sustained growth and give rise to a new economic opportunities.

From The OECD, *Towards Green Growth*, July 2011 (www.oecd.org)

26. Why green growth?

Governments today face challenges in advancing economic and social development in light of resource constraints and risks posed by climate change and environmental degradation.

Green growth – a path towards an inclusive green growth that achieves resource efficient and climate resilient economic development and poverty reduction – is now a necessity rather than a choice.

- *Green growth can enhance efficiency and productivity.*
- *Green growth can underpin industrial policy and macroeconomic goals.*
- *Green growth can improve quality of life and, if designed and implemented well, can address social equity issues.*

From Green Growth Best Practice (GGBP),
Green Growth in Practice: Lessons from Country Experiences (www.ggbp.org)

27. Many Governments Adopted GG Strategies (GGBP)

- **Chile** launched the National Green Growth Strategy in December 2013.
- **China** has committed to green growth in its 12th 5-Year Plan.
- **Germany's** green growth policies → an important engine for environmental innovation, enabling development of an internationally competitive environmental goods and services sector.
- **Korea** launched its green growth strategy in 2008.
- **Mozambique** launched the Green Economy Roadmap at the Rio+20 CSD → “An inclusive, middle income country by 2030”.
- **Rwanda** released the Green Growth and Climate Resilience National Strategy for CC and LC Development in October 2011.

28. Is GG always inclusive? *Not really ...* (OECD)

Adverse distributional effects can be mitigated through three main strategies:

- using revenues from env. taxation to reduce taxes on labor;
- using the welfare system to target assistance to poorer families; and
- promoting active labor market policies, esp., training to facilitate smooth structural adjustment.

In LR, general skills and education levels of workforces need be augmented to prepare them for a less natural-resource-based, more knowledge-based economy.

The costs of structural change reduced if steps taken to:

- ensure the credibility of policies over the long term,
- provide appropriate frameworks for infrastructure provision
- planning and give clear signals about the overall direction of travel - towards green growth.

In LR, GG likely to depend on the growth of the knowledge economy and the substitution of ideas and human capital for natural resources.

29. Korea's GG Experience: Looking back, looking forward

- Korea's GG experience has been successful in tempering the country's preoccupation with economic growth with a generalized appreciation of the need for environmental protection and climate change actions.

→ **Green growth now a dominant frame for long-term public policy discussion.**
- The economic doldrums and the increasing salience of social polarization and political governance problems have been undermining the momentum for green growth. → **Need for approach to GG in the context of the SD promotion.**
- The de-carbonization strategy for green growth has run into a fundamental dilemma due to energy-intensive industrial structure and heightened opposition to nuclear power in the absence of rich endowment of renewable energy resources.
- **Korea's GG strategy should be folded into the more holistic frame of SD and more explicitly address SD, while doubling-up emphasis on green innovation with focus on efficiency and switching to the renewable energy.**

30. Green Growth as an Implementation Strategy for Sustainable Development: GG addresses 7+ SDGs

- Goal 13: Combat climate change and its impacts
- Goal 14: Conserve oceans, seas, marine resources
- Goal 15: Ecosystems, forests, desertification, land degradation, biodiversity loss
- Goal 12: Sustainable Consumption and Production Patterns
- Goal 11: Cities and human settlements: safe, resilient and sustainable
- Goal 9: Resilient infrastructure, sustainable industrialization
- Goal 6: Sustainable management of water and sanitation for all
- Goal 7: Affordable, reliable, sustainable modern energy for all

Part VI.

Promotion of a Circular Economy – The Green Growth Strategy for SDGs

Material-Cycle Society – A Green Growth Strategy

The G7 Germany Summit on Resource Efficiency

The protection and efficient use of natural resources **is vital for sustainable development.**

We strive to improve resource efficiency, which we consider crucial **for the competitiveness of industries, for economic growth and employment, and for the protection of the environment, climate and planet.**

Building on the “Kobe 3R Action Plan”, and on other existing initiatives, we will continue to take ambitious action to improve resource efficiency as part of broader **strategies to promote sustainable materials management and material-cycle societies.**

Kobe 3R Action Plan – A Strategy for Resource Efficiency

The increase in waste generation and waste not treated in an environmentally sound manner is contributing **to worsening environmental pollution worldwide including air, soil and water pollution as well as GHG emissions.**

The quantity of raw materials wasted as a result of inefficient resource and waste management worldwide is immense.

The 3Rs, through initiatives to “reduce”, “reuse” and “recycle” materials and waste, aim to promote to **increases in resource productivity and decoupling resource consumption and environmental degradation** associated with economic activities.

In order to reduce GHG emissions, it is necessary to further the **promotion of energy recovery, material and chemical recycling, and biological and thermal waste treatment...**

Kobe 3R Action Plan – A Strategy for Green Growth

Resource and waste management policy is a potential **driver of innovation and jobs** in industrialized and newly industrializing countries.

The consistent application of regulatory, economic and other instruments results in the development of a wide range of technologies, organizations and applications in all areas of the 3Rs as well as in waste management, and that at the same time, it gives rise to new job opportunities with higher skill requirements.

Based on the spirit of *mottainai*, **the 3R Initiative aims to establish a sound material-cycle society which values limited resources and does not waste valuable goods or materials** by promoting the capacity development of each country and endorsing the development of 3Rs-related science and technology through collaboration among countries, stakeholders and international organizations.